

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

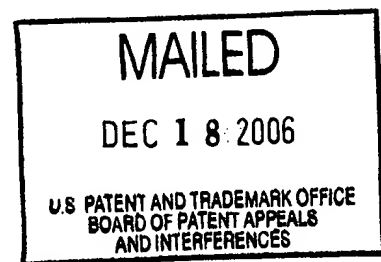
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HISHAM S. ABDEL-GHAFFAR

Appeal No. 2006-2544
Application No. 09/764,072

ON BRIEF



Before THOMAS, BLANKENSHIP, and MACDONALD, Administrative Patent Judges.
BLANKENSHIP, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1-10.

We affirm, and enter new grounds of rejection in accordance with 37 CFR § 41.50(b).

BACKGROUND

The invention relates to a method of determining a time offset estimate between a central node and a secondary node; particularly, where the nodes have periodic local timing. (Spec. at 1.) Representative claim 1 is reproduced below.

1. A method of determining a time offset estimate between a central node and a secondary node, comprising:

receiving, at a central node, downlink and uplink timing information from a secondary node, the downlink and uplink timing information based on a periodic timing scale, the downlink timing information representing timing information for communication from the central node to the secondary node and the uplink information representing timing information for communication from the secondary node to the central node;

converting the received downlink and uplink timing information to a continuous time scale; and

determining a time offset estimate between the central node and the secondary node based on the converted downlink and uplink timing information.

The examiner relies on the following references:

Thornberg et al. (Thornberg)	5,757,772	May 26, 1998
Premerlani	5,958,060	Sep. 28, 1999

We refer to the Final Rejection (mailed Dec. 15, 2004) and the Examiner's Answer (mailed Oct. 4, 2005) for a statement of the examiner's position and to the Brief (filed Aug. 23, 2006) and the Reply Brief (filed Dec. 5, 2005) for appellant's position with respect to the claims which stand rejected.

Claims 1-4 and 7 stand rejected under 35 U.S.C. § 102 as being anticipated by Premerlani.

Claims 5, 6, and 8-10 stand rejected under 35 U.S.C. § 103 as being unpatentable over Premierlani and Thornberg.

The examiner has withdrawn a rejection against claim 11 as being anticipated (§ 102) by Premierlani. (Answer at 2.)

OPINION

The rejections

The examiner finds instant claim 1 to be anticipated by Premierlani. The reference is directed to clock synchronization and control. The rejection relies in particular on Premierlani's description, in columns 5 and 6, of four time stamps for calculating round trip delay time between nodes and using the information to determine clock offset between nodes.

Appellant acknowledges Premierlani's teaching that if rollover or wraparound of any of the time stamps occurs, then a predetermined number may be added to or subtracted from the round trip delay and one half of the number can be added to or subtracted from the clock offset. (Brief at 8.) According to appellant, Premierlani does not disclose converting the received downlink and uplink timing information to a continuous time scale. In appellant's view, Premierlani calculates round trip delay using "unconverted" downlink and uplink timing values. (Id.) Because Premierlani is deemed to not disclose converting the received downlink and uplink timing information to a continuous scale, the reference cannot describe determining a time offset between the

nodes “based on the converted downlink and uplink timing information” as required by instant claim 1. (Id. at 8-9.)

Appellant’s specification, in material bridging pages 8 and 9 (and at Fig. 5), provides examples of converting time stamps from a periodic to a continuous time scale. For example, if $T_{1,n}$ is determined to be inaccurate due to time wraparound, T_f is added to the value. T_f is the overall system period for all associated nodes. (Spec. at 3; Fig. 2.)

Premerlani describes determining round trip delay between two terminals by subtracting a first and a second set of four time stamps. The clock offset can be calculated by adding the two delays between the terminals and dividing by two. The time stamps may, however, be unsigned numbers that wrap around. To compensate for roll over of particular time stamps, a predetermined number can be subtracted from the round trip delay and one half of the value can be subtracted from the clock offset, or the predetermined number can be added to the round trip delay and one half of the value can be added to the clock offset. The “predetermined number” is selected as the number of counts before which the clock rolls over. Premerlani col. 6, ll. 13-36.

Appellant’s system converts timing information to “a continuous time scale” by adding a predetermined number (T_f) to a time stamp value in the event of wraparound with respect to the periodic timing scale. The Premerlani system converts the received downlink and uplink timing information to a continuous time scale, within the meaning of instant claim 1, for the purpose of compensating for wraparound in the time stamp

values. The Premierlani system would be inoperative if the wraparound were not so compensated. The claimed “converting the received downlink and uplink timing information to a continuous time scale” does not require the specifics of the disclosed examples of operating on time stamp values individually, but is sufficiently broad to read on the operations described by Premierlani. Our reviewing court has repeatedly warned against confining the claims to specific embodiments described in the specification. Phillips v. AWH Corp., 415 F.3d 1303, 1323, 75 USPQ2d 1321, 1334 (Fed. Cir. 2005) (en banc).

Premerlani thus supports the examiner’s finding of anticipation, and we sustain the rejection of claim 1. Claims 2-4 and 7, not separately argued by appellant, fall with claim 1. See 37 CFR § 41.37(c)(1)(vii) (2006).

Nor do appellant’s arguments in response to the § 103 rejection of claims 5, 6, and 8-10 persuade us of error. Appellant relies on the supposed deficiencies in Premierlani as applied against base claim 1. (Brief at 10.) We therefore sustain the rejection of claims 5, 6, and 8-10.

New ground of rejection

We enter the following new ground of rejection against the claims in accordance with 37 CFR § 41.50(b): Claim 11 is rejected under 35 U.S.C. § 102(b) as being anticipated by Premierlani.

Claim 11 was rejected under § 102 over Premerlani in the Final Rejection. However, the rejection was withdrawn in the Answer. We therefore designate the rejection of claim 11 as a new ground of rejection.

Instant claim 11 is similar to claim 1. The language of claim 11 differs in the steps of “adjusting the received downlink and uplink timing information for time wraparound,” and determining a time offset estimate “based on the adjusted downlink and uplink timing information.”

We find that Premerlani adjusts the received downlink and uplink timing information for time wraparound and determines the time offset estimate based on the adjusted downlink and uplink timing information for the reasons in our discussion (*supra*) of the reference as applied against claim 1. Further, similar to claim 1, we do not consider claim 11 to require the disclosed specifics of operating directly on individual time stamp values, but broad enough to read on the operations described by Premerlani. We thus reject the claim under § 102.

CONCLUSION

The rejection of claims 1-10 is affirmed.

A new rejection of claim 11 under 35 U.S.C. § 102(b) is set forth herein.

This decision contains a new ground of rejection pursuant to 37 CFR § 41.50(b) (2006). 37 CFR § 41.50(b) provides “[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review.”

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37 CFR § 41.50(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

(1) *Reopen prosecution*. Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner. . . .

(2) *Request rehearing*. Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a). See 37 CFR § 1.136(a)(1)(iv).

AFFIRMED -- 37 CFR § 41.50(b)

JAMES D. THOMAS
Administrative Patent Judge

HOWARD B. BLANKENSHIP
Administrative Patent Judge

ALLEN R. MACDONALD
Administrative Patent Judge

**BOARD OF PATENT
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